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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/877,217	06/11/2001	Ikuya Tsurukawa	206470US-2	9559

22850 7590 04/30/2007  
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
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TAMAI, KARL I

ART UNIT	PAPER NUMBER
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2834

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	04/30/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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**Office Action Summary**

Application No.

09/877,217

Applicant(s)

TSURUKAWA ET AL.

Examiner

Tamai I.E. Karl

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 5-13 and 15-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-13, 16-26, and 28 is/are rejected.
- 7) ☒ Claim(s) 5, 15, 27 and 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 2/27/2007 11/8/06
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. The objection to Claims 1-29 is withdrawn.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 2/27/2007 and 11/8/2006. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner. The examiner notes that the references in are the Japanese language, thus they have been considered only for the disclosed drawings, and for the content of the English Abstract (when provided by the Applicant).

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 12-14, 20, 21, and 26 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Yamaguchi et al. (Yamaguchi)(JP 08-331812). Yamaguchi teaches a dc motor with a stator having magnetic field 9, a rotor 6 with shaft 7 and coils, a disc shaped commutator 1 with baseboard (printed wiring board) supporting a contact layer into which is formed gold contact electrode parts 1a-1f and plane conductive

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patterns 2 (on both sides of gap 4) above the contact electrodes on the second surface and a electrical resistors 5 mounted on the first side. The resistor reducing sparking and inherently reducing noise. The motor including a support base 12 with terminals 13 and bearings. Yamaguchi teaches the brush 11 (supplying means) including a terminals 13 (connecting means) which are fixed in the base 12, where the terminals protrude from the base (see translation paragraph 0012).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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7. Claims 1-3, 12-14, 20, 21, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ooyama et al. (Ooyama)(JP 56-88650) and Mabuchi (US 4228376). Ooyama teaches a DC motor having a stator 4 opposed to the rotor magnetic poles 8 with a commutator having flat disc portion 10D with electrical parts 12 to reduce noise mounted on a flat surface on the rotor side and a plane conductive pattern forming planar contact electrodes 11A, 11B, 11C and risers 11A-1, 11B-1, 11C-1 on the second flat surface and with a shaft perpendicularly intersecting the electrical parts mounting baseboard, and having a pair of electrical brushes in sliding contact with the electrode part to provide power to the rotor coils where each pair of brushes includes first and second separate portions in sliding contact with the contact electrodes which inherently cause a phase difference due to a shift in the rotational angle of the sliding contacts of the separate portions relative to the contact electrode part. Ooyama teaches the brushes mounted on a support base 2 including a bearing 6.

Ooyama teaches every aspect of the invention except the brushes having external terminals. Mabuchi teaches the brushes include terminals 4 extending from the motor housing 6 for connection to a power supply. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Ooyama with brushes including terminals for easy assembly of the brushes as taught by Mabuchi.

8. Claims 6, 7, 8, 9, 16, 17, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ooyama et al. (Ooyama)(JP 56-88650) and Mabuchi (US

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4228376), in further view of Yaguchi et al. (Yaguchi)(JP 06-189504). Ooyama and Mabuchi teach every aspect of the invention except a rotational detection brush and the angle of the brush being  $180/n$  and the rotor position brush having separate portions. Yaguchi teaches that DC motor are provided with rotation detection brushes to surely determine the speed and direction of the motor. Yaguchi teaches the angle of the brush is a result effective variable. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Ooyama and Mabuchi with the rotation detection brush to provide accurately determine the speed and direction of the rotor, as taught by Yaguchi, and with the angle of the brush being  $180/n$  to optimize the position of the rotation detection brushes, and because it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (see *In re Aller*, 105 USPQ 233), and with the same brushes for the electrode brushes and position detection brushes to simplify production and assembly.

9. Claims 10, 18, 22, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ooyama et al. (Ooyama)(JP 56-88650) and Mabuchi (US 4228376), in further view of Ito (JP 55-133651). Ooyama and Mabuchi teach every aspect of the invention except the respective brushes shifted in the radial direction. Ito teaches shifting the commutator brushes in the radial direction to reduce wear. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Ooyama and Mabuchi with the brushes shifted radially to prevent wear as taught by Ito.

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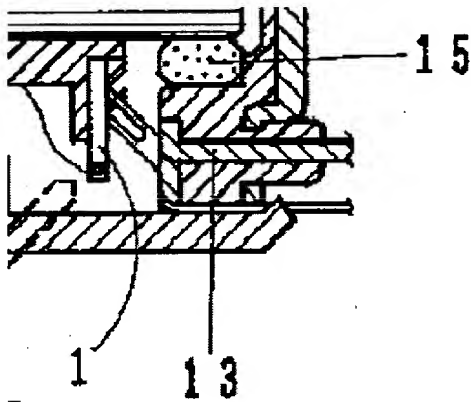
10. Claim 11, 25, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ooyama et al. (Ooyama)(JP 56-88650), Mabuchi (US 4228376), Ito (JP 550133651) and Yaguchi et al. (Yaguchi)(JP 06-189504). Ooyama, Mabuchi, and Ito teach every aspect of the invention except a rotational detection brush and brush arranged at different radial position than the electrode brush. Yaguchi teaches that DC motor are provided with rotation detection brushes to surely determine the speed and direction of the motor. Yaguchi teaches the angle of the brush is a result effective variable. It would have been obvious to a person of ordinary skill in the art at the time of the invention to construct the motor of Ooyama, Mabuchi, and Ito with the rotation detection brush to provide accurately determine the speed and direction of the rotor, as taught by Yaguchi, and with the angle of the brush being  $180/n$  to optimize the position of the rotation detection brushes, and because it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (see *In re Aller*, 105 USPQ 233), and with the rotational and electrode brushes shifted to different radial positions because Ito teach that it reduces wear on the commutator.

### ***Response to Arguments***

11. Applicant's arguments filed 3/7/2006 have been fully considered but they are not persuasive. Applicant's arguments regarding Yamaguchi are not persuasive because all the limitation are show by Yamaguchi as cited above. Particularly, the brush 11 with terminals 13 extending from the base 12 is shown in figure 2. The prior art of record

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repeatedly shows the amended limitations: see CN 87 2 15879U as one of many examples (original IDS filed 10/9/03).



Yamaguchi figure 1.

12. Applicant's argument that Mabuchi does not teach brushes with supply terminals is not persuasive because Mabuchi includes terminals 4 extending outward from the motor case 6, see figure 3.

#### ***Allowable Subject Matter***

13. Claims 5, 15, 27, and 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

14. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl I.E. Tamai at telephone number is (571) 272 - 2036. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Darren Schuberg, can be reached at (571) 272 - 2044. The facsimile number for the Group is (571) 273 - 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Karl I Tamai  
PRIMARY PATENT EXAMINER  
April 17, 2007



KARL TAMAI  
PRIMARY EXAMINER